

WE CLAIM:

1. An alkaline detergent composition comprising:

5 (a) an effective soil removing amount of a source of alkalinity; and

(b) an effective soil removing amount of a nonionic surfactant blend comprising:

10 (i) a nonionic surfactant comprising a hydrophobic group and an -(EO)_x group, wherein x is a number of about 1 to 100; and
(ii) a nonionic silicone surfactant comprising a hydrophobic silicone group and a pendent hydrophilic polyalkylene oxide group;

15 wherein the detergent exhibits enhanced waxy-fatty soil removing capacity.

20 2. The detergent of claim 1 wherein the detergent comprises a solid block having a mass of at least 100 grams.

25 3. The detergent of claim 2 wherein the detergent is packaged within a flexible wrapping.

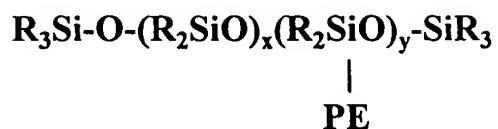
4. The detergent of claim 1 comprising a powder.

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5. The detergent of claim 1 comprising a pellet.

6. The detergent of claim 1 wherein the silicone surfactant has the formula:

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10 wherein PE represents $-\text{CH}_2-(\text{CH}_2)_p-\text{O}-(\text{EO})_m(\text{PO})_n-\text{Z}$, x is a number that ranges from about 0 to about 100, y is a number that ranges from about 1 to 100, p is 0 to 6, m and n are numbers that range from about 0 to about 50, $m+n \geq 1$, and Z represents hydrogen or R and each R independently
15 represents a lower (C_{1-6}) alkyl.

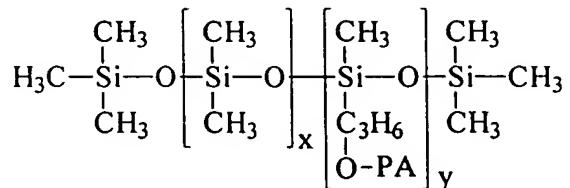
7. The detergent of claim 6 wherein the source of alkalinity comprises an alkali metal hydroxide.

20 8. The detergent of claim 3 wherein the source of alkalinity comprises an alkali metal carbonate.

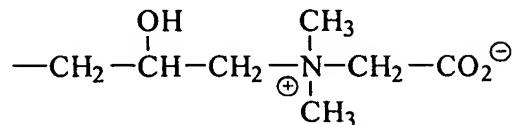
9. The detergent of claim 1 wherein the detergent additionally comprises a hardness sequestering agent.

10. The detergent of claim 1 wherein the silicone surfactant has the formula:

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$$\text{PA} = -(C_2\text{H}_4\text{O})_a(\text{C}_3\text{H}_6\text{O})_b\text{R} \text{ or}$$



wherein x represent a number that ranges from about 0 to
10 about 100, y represent a number that ranges from about 1 to
about 100, a and b represent numbers that independently
represent numbers that range from about 0 to about 60,
 $a+b \geq 1$ and R is hydrogen or a lower (C_{1-6}) alkyl.

15 11. The detergent of claim 1 wherein the nonionic surfactant comprises a linear alcohol ethoxylate or an alkylphenolethoxylate.

12. The detergent of claim 1 wherein the nonionic
20 surfactant comprises a benzyl capped C_{8-12} linear alcohol 6 to 16 mole ethoxylate.

13. The detergent of claim 1 wherein the sequestrant comprises an amino trialkylene phosphonic acid sodium salt.

14. The detergent of claim 13 wherein the sequestrant additionally comprises a 2-phosphono-butane-1,2,4-tricarboxylic acid sodium salt, 1-hydroxyethylidene-1,1-diphosphonic acid, diethylenetriamine-penta(methylenephosphonic acid) or mixtures thereof.

15. The detergent of claim 1 wherein the sequestrant comprises sodium tripolyphosphate and amino trimethylene phosphonic acid sodium salt, 2-phosphono-butane-1,2,4-tricarboxylic acid, 1-hydroxyethylidene-1,1-diphosphonic acid, diethylenetriamine-penta(methylenephosphonic acid) or mixtures thereof.

15 16. The detergent composition of claim 2, wherein the detergent comprises

(a) about 5 to 60 wt% of Na_2CO_3 ; and
(b) about 1 to 25 wt% of a hardness sequestering agent selected from the group consisting of sodium tripolyphosphate, an organic phosphonate sequestrant, and mixtures thereof;

wherein the solid block detergent has a mass of at least 0.5 kilograms.

25 17. The detergent of claim 16 wherein the phosphonate sequestrant comprises an amino trimethylene phosphonic acid sodium salt.

18. The detergent of claim 17 wherein the sequestrant 30 additionally comprises a 2-phosphono-butane-1,2,4-

tricarboxylic acid sodium salt, 1-hydroxyethylidene-1,1-diphosphonic acid, diethylenetriamine-penta(methylenephosphonic acid) or mixtures thereof.

5 19. The detergent of claim 14 wherein the detergent is packaged in a flexible polyolefin film.

v 20. A solid block detergent composition, the detergent
10 comprising:

 (a) an effective soil removing amount of a source of alkalinity;

 (b) an effective amount of a hardness sequestering agent; and

15 (c) an effective soil removing amount of nonionic surfactant composition comprising:

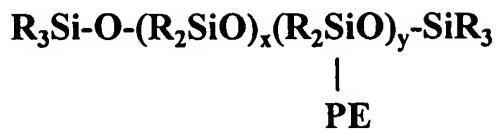
 (i) a nonionic surfactant comprising a hydrophobic group and an -(EO)_x group, wherein x is a number of about 1 to 60 group; and

20 (ii) a silicone surfactant comprising a hydrophobic silicone group and a pendent hydrophilic polyalkylene oxide group;

wherein the block has a mass of at least 100 grams and is packaged within a flexible wrapping and the detergent
25 exhibits enhanced waxy-fatty soil cleaning capacity.

21. The detergent of claim 20 wherein the silicone surfactant has the formula:

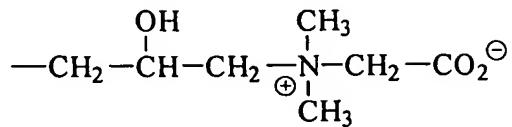
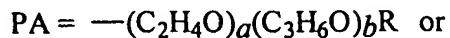
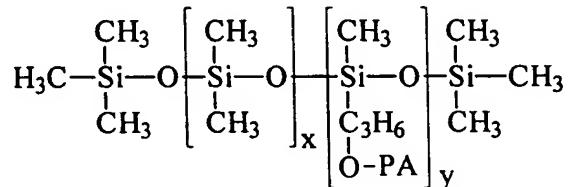
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10 wherein PE represents $-\text{CH}_2-(\text{CH}_2)_p-\text{O}-(\text{EO})_m(\text{PO})_n-\text{Z}$, x is a number that ranges from about 0 to about 100, y is a number that ranges from about 1 to 100, $x+y \geq 1$, p is 0 to 6, m and n are numbers that range from about 0 to about 50, $m+n \geq 1$, and Z represents hydrogen or R and each R represents a
15 lower (C_{1-6}) alkyl.

22. The detergent of claim 20 wherein the silicone surfactant has the formula:

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wherein x represent a number that ranges from about 0 to
about 100, y represent a number that ranges from about 1 to
about 100, $x+y \geq 1$, a and b represent numbers that
independently represent numbers that range from about 0 to
5 about 60, $a+b \geq 1$ and R is hydrogen or a lower (C_{1-6}) alkyl.

23. The detergent of claim 20 wherein the nonionic
surfactant comprises a linear alcohol ethoxylate or an
alkylphenol-ethoxylate.

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24. The detergent of claim 20 wherein the nonionic
surfactant comprises a benzyl capped C_{8-12} linear alcohol 6
to 16 mole ethoxylate.

15 25. The detergent of claim 20 wherein the sequestrant
comprises an amino trialkylene phosphonic acid sodium salt.

26. The detergent of claim 25 wherein the sequestrant
additionally comprises a 2-phosphono-butane-1,2,4-
20 tricarboxylic acid sodium salt, 1-hydroxyethylidene-1,1-
diphosphonic acid, diethylenetriamine-
penta(methylenephosphonic acid) or mixtures thereof.

27. The detergent of claim 20 wherein the sequestrant
25 comprises an amino trialkylene phosphonic acid sodium salt
or a 2-phosphono-butane-1,2,4-tricarboxylic acid sodium
salt 1-hydroxyethylidene-1,1-diphosphonic acid,
diethylenetriamine-penta(methylenephosphonic acid) or
mixtures thereof.

28. The detergent of claim 20 wherein the sequestrant comprises sodium tripolyphosphate and amino trimethylene phosphonic acid sodium salt, 2-phosphono-butane-1,2,4-tricarboxylic acid or mixtures thereof.

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29. The detergent composition of claim 20, wherein the detergent comprises:

10 (a) about 5 to 60 wt% of Na_2CO_3 ; and
(b) about 1 to 25 wt% of a hardness sequestering agent selected from the group consisting of sodium tripolyphosphate, an organic phosphonate sequestrant, and mixtures thereof;
15 wherein the solid block detergent has a mass of at least 0.5 kilograms.

30. The detergent of claim 20 wherein the detergent is packaged in a flexible polyolefin film.

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31. The detergent of claim 1 wherein the nonionic surfactant comprises a benzyl capped C_{8-12} linear alcohol 6 to 16 mole ethoxylate.